

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A non-aqueous secondary battery which employs a negative electrode in which the negative electrode active material is a material capable of lithium doping/dedoping, a positive electrode in which the positive electrode active material is a lithium-containing transition metal oxide, and a non-aqueous electrolyte solution as the electrolyte solution, wherein

(1) the separator is composed of a porous film made of a porous polymer, which includes a network-like support, and swells in the electrolyte solution and retains said electrolyte solution,

(2) said network-like support has a mean film thickness of 10-30 μm , a basis weight of 6-20 g/m^2 , a Gurley value (JIS P8117) of no greater than 10 sec/100 cc, a McMullin number of no greater than 10 at 25°C and a (McMullin number x film thickness) product of no greater than 200 μm ,

(3) said separator has a mean film thickness of 10-35 μm , a basis weight of 10-25 g/m^2 and a Gurley value (JIS P8117) of no greater than 60 sec/100 cc, and

(4) the following ~~relationship~~ relationships I and II:

$$Q_{pr}W_p < q_m + Q_nW_n < 1.3Q_pW_p \quad \text{I}$$

$$\underline{Q_pW_p < q_m + Q_nW_n < 1.3Q_pW_p} \quad \text{II}$$

~~is~~ are satisfied, wherein the value of the total amount of lithium in the positive electrode active material in terms of electric charge is Q_p (mAh/mg), the amount of lithium utilized for charge-discharge reaction of the lithium in the positive electrode active material in terms of electric charge is Q_{pr} (mAh/mg), the value of the amount of lithium which can be doped in the negative electrode active material in terms of electric charge is Q_n (mAh/mg), the value for the overcharge-preventing function of the separator is q_m (mAh/cm²), the weight of the positive electrode active material is W_p (mg/cm²) and the weight of the negative electrode active material is W_n (mg/cm²).

2. (original): A battery according to claim 1, wherein $Q_{pr}W_p/Q_nW_n = 0.7-1.05$.

3. (original): A battery according to claim 1, wherein said positive electrode active material is a lithium-containing transition metal oxide represented by $LiMO_2$, where M is at least one metal element selected from the group consisting of cobalt, nickel, manganese, aluminum, iron, titanium and vanadium, and at least 1/3 of the atomic ratio composition of M is cobalt or nickel.

4. (original): A battery according to claim 1, wherein said positive electrode active material is a lithium-containing transition metal oxide represented by LiM_2O_4 where M is at least one metal element selected from the group consisting of manganese, magnesium, nickel, cobalt, chromium, copper, iron and boron, and at least 1/3 of the atomic ratio composition of M is manganese.

5. (original): A battery according to claim 1, wherein said positive electrode active material is lithium nickelate ($LiNiO_2$).

6. (original): A battery according to claim 1, wherein said positive electrode active material is lithium manganate ($LiMn_2O_4$).

7. (original): A battery according to claim 1, wherein said positive electrode active material is composed of lithium manganate (LiMn_2O_4) and lithium nickelate (LiNiO_2).

8. (original): A battery according to claim 1, wherein said network-like support is a nonwoven fabric.

9. (original): A battery according to claim 8, wherein the fiber composing said nonwoven fabric is composed of at least one type of high-molecular-weight polymer selected from the group consisting of polyolefins, polyphenylene sulfide, aromatic polyamides and polyesters.

10. (original): A battery according to claim 1, wherein said network-like support is a cloth.

11. (original): A battery according to claim 10, wherein said network-like support is a glass cloth.

12. (previously presented): A battery according to claim 1, wherein the overcharge-preventing function value q_m of said separator is in the range of $0.1\text{-}1.5\text{ mAh/cm}^2$.

13. (original): A battery according to claim 12, wherein the overcharge-preventing function value q_m of said separator is in the range of $0.1\text{-}1.0\text{ mAh/cm}^2$.

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